

Population Health Information Research Infrastructure (PHIRI) for COVID-19

DIPoH's practical use case
National Node meeting from InfAct to PHIRI
11/03/2021

Overview

- Timeline: 1 November 2020 – 3 years
- Financing: European Commission Horizon 2020 – 5M€
- Coverage: 41 partners in 30 countries based on InfAct consortia
 - 27 National Institute of Public Health or Research or Disease Control
 - 7 Universities
 - 7 Ministries of Health
- Structure: 9 workpackages and 3 transversal topics



Map of PHIRI Partners



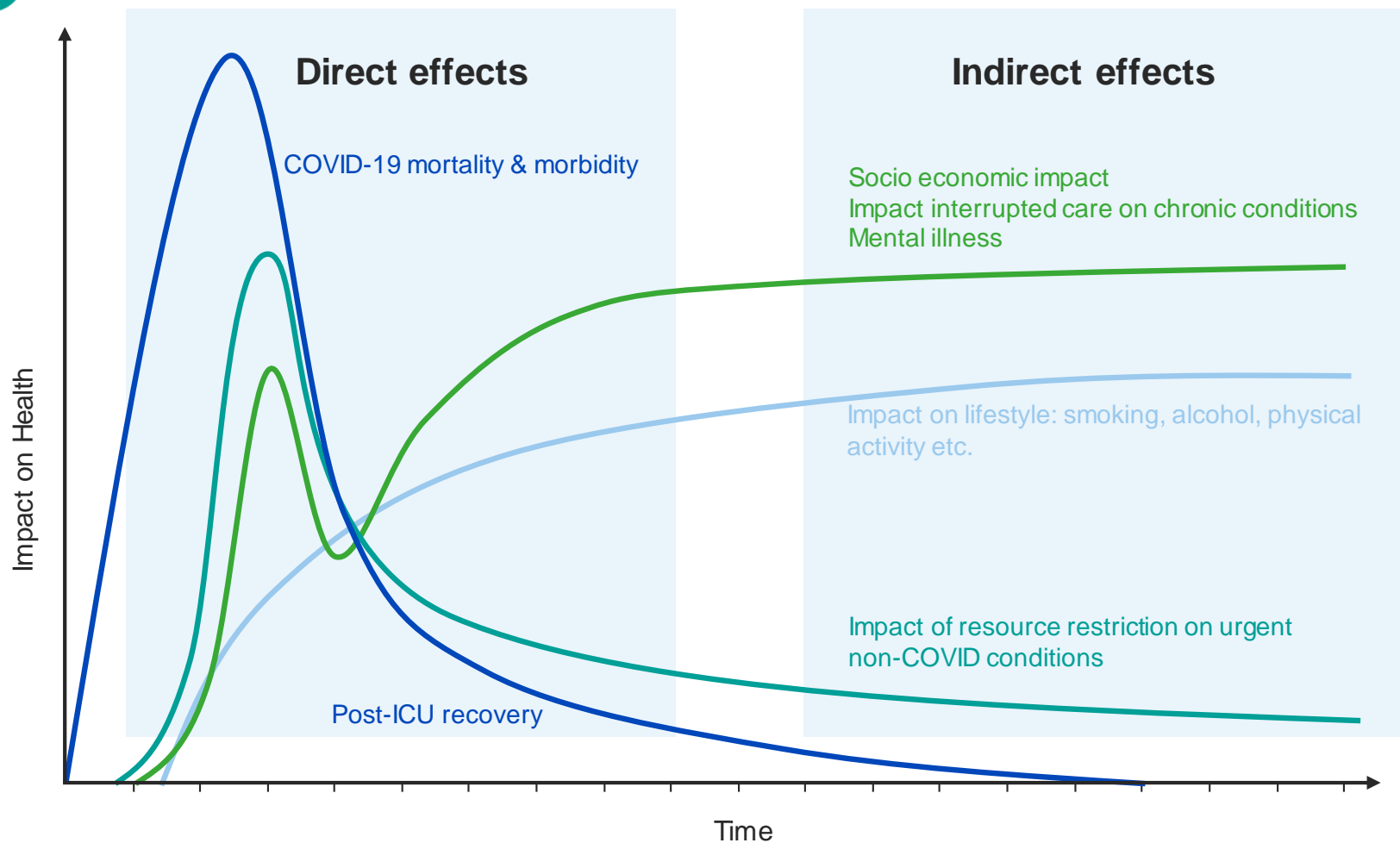
PHIRI for Covid-19

Population Health Information Research Infrastructure (PHIRI) aims to:

Identify, access, assess and reuse for research population health and non-health data in Member States and across Member States that can underpin public health policy decisions relevant to Covid-19

In close interaction with key stakeholders in the health information landscape, in particular with ECDC, EUROSTAT, JRC, OECD, and WHO

(In)direct impact of COVID-19 on population health



www.phiri.eu



PHIRI

Research use cases
Research methodologies

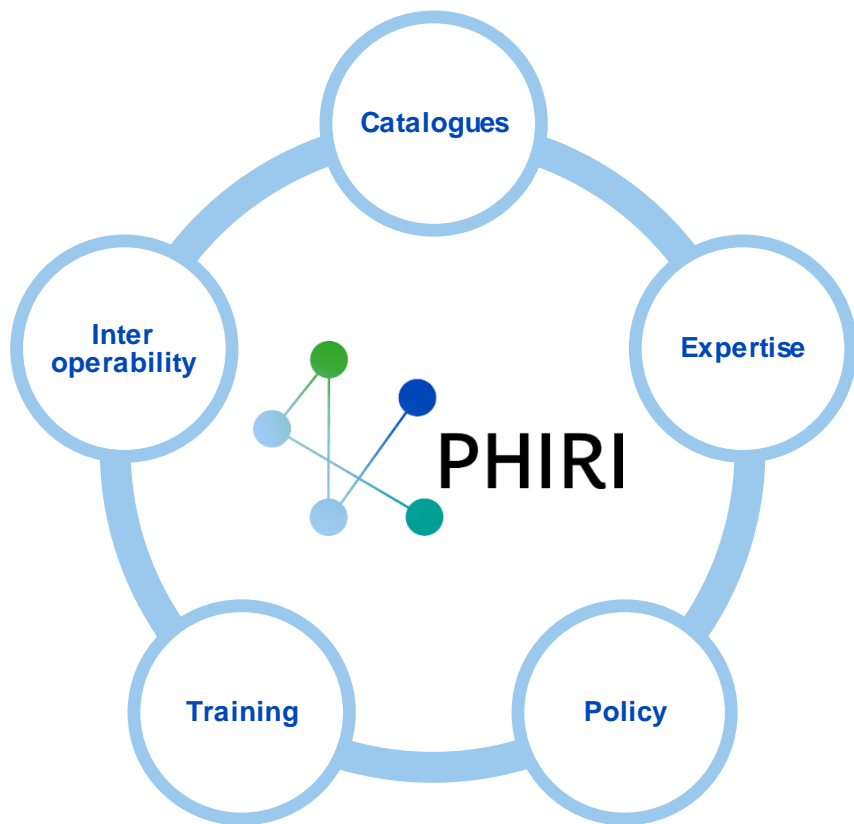
Health information Portal
Federated Research Infrastructure

Rapid Exchange Forum
Outreach & Engagement

Foresight: Modeling & Scenarios

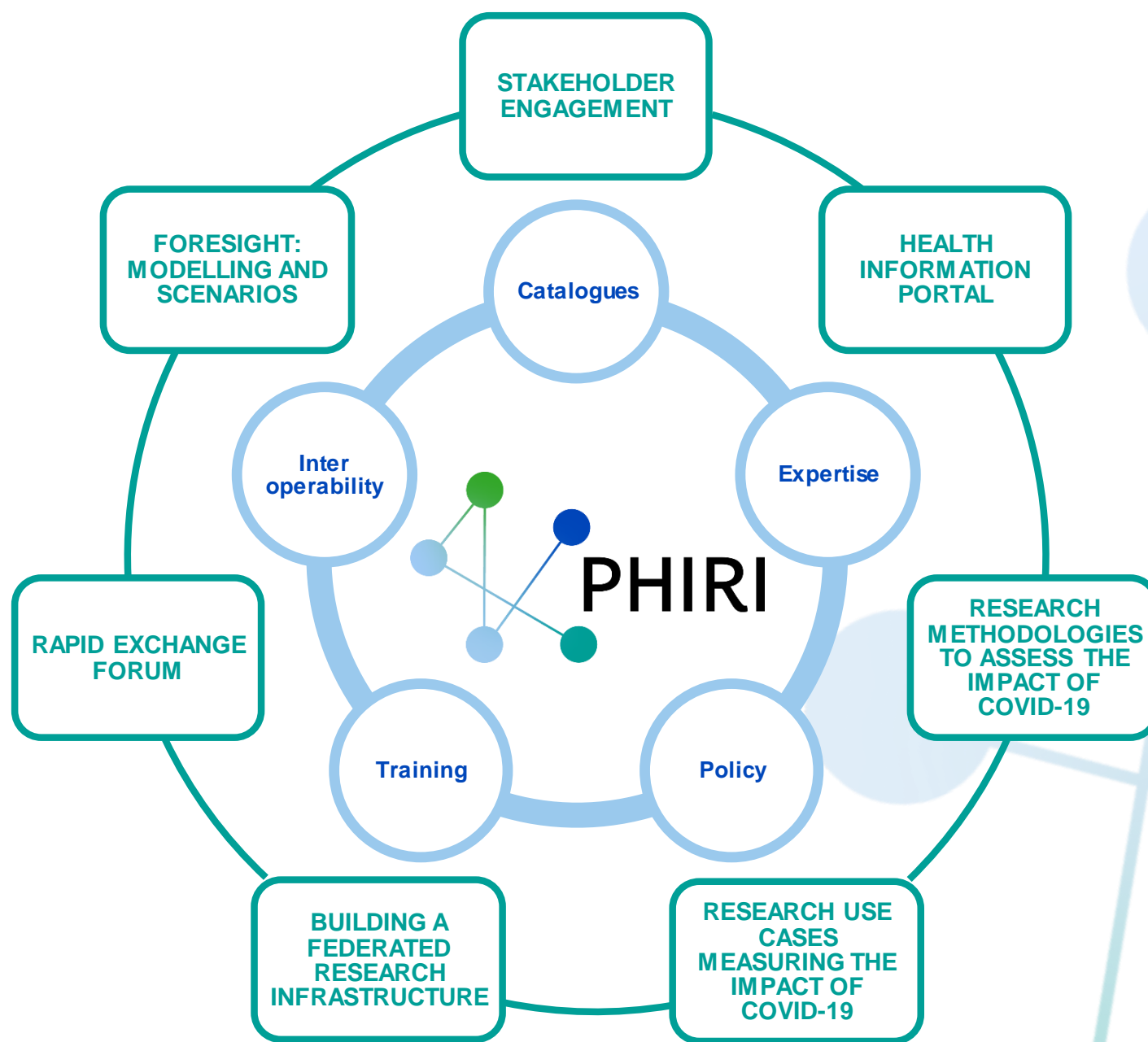
Stakeholder involvement
Capacity building
Policy linkage

PHIRI for COVID-19



Objectives:

1. To provide a **Health Information portal** for COVID-19 with FAIR catalogues on health and healthcare data for structured information exchange across European countries. To link different data sources and to use Pan-European data in a GDPR compliant, federated way.
2. To provide structured exchange between countries on COVID-19 **best practices and expertise**. It allows researchers to provide relevant and evidence based information ready for use in research, and decision-making processes.
3. To promote **interoperability** and tackle health information inequalities. PHIRI supports researchers and public health bodies to research queries related to COVID-19 and provides **capacity building** for management of COVID-19 relevant population health and healthcare data.

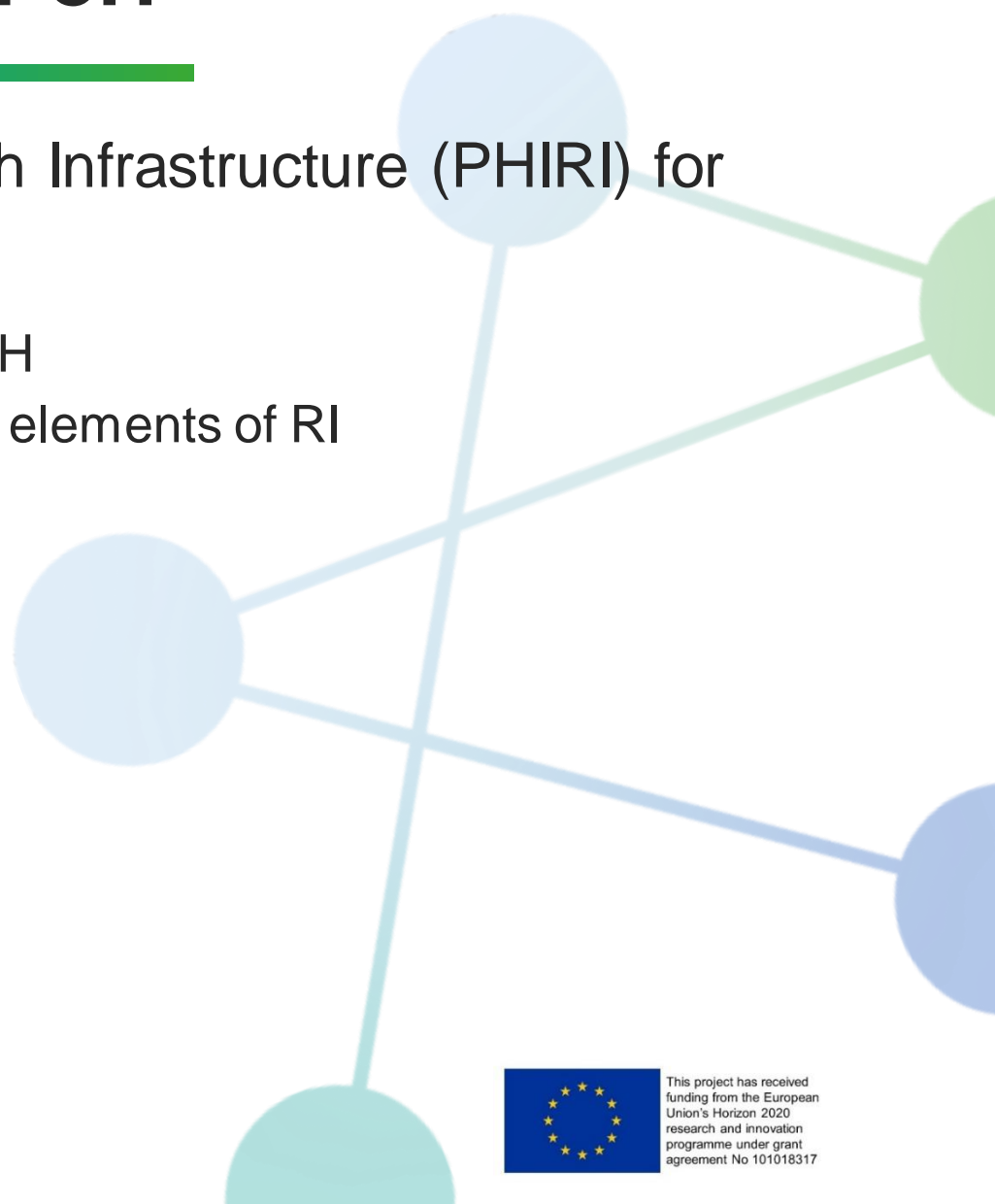




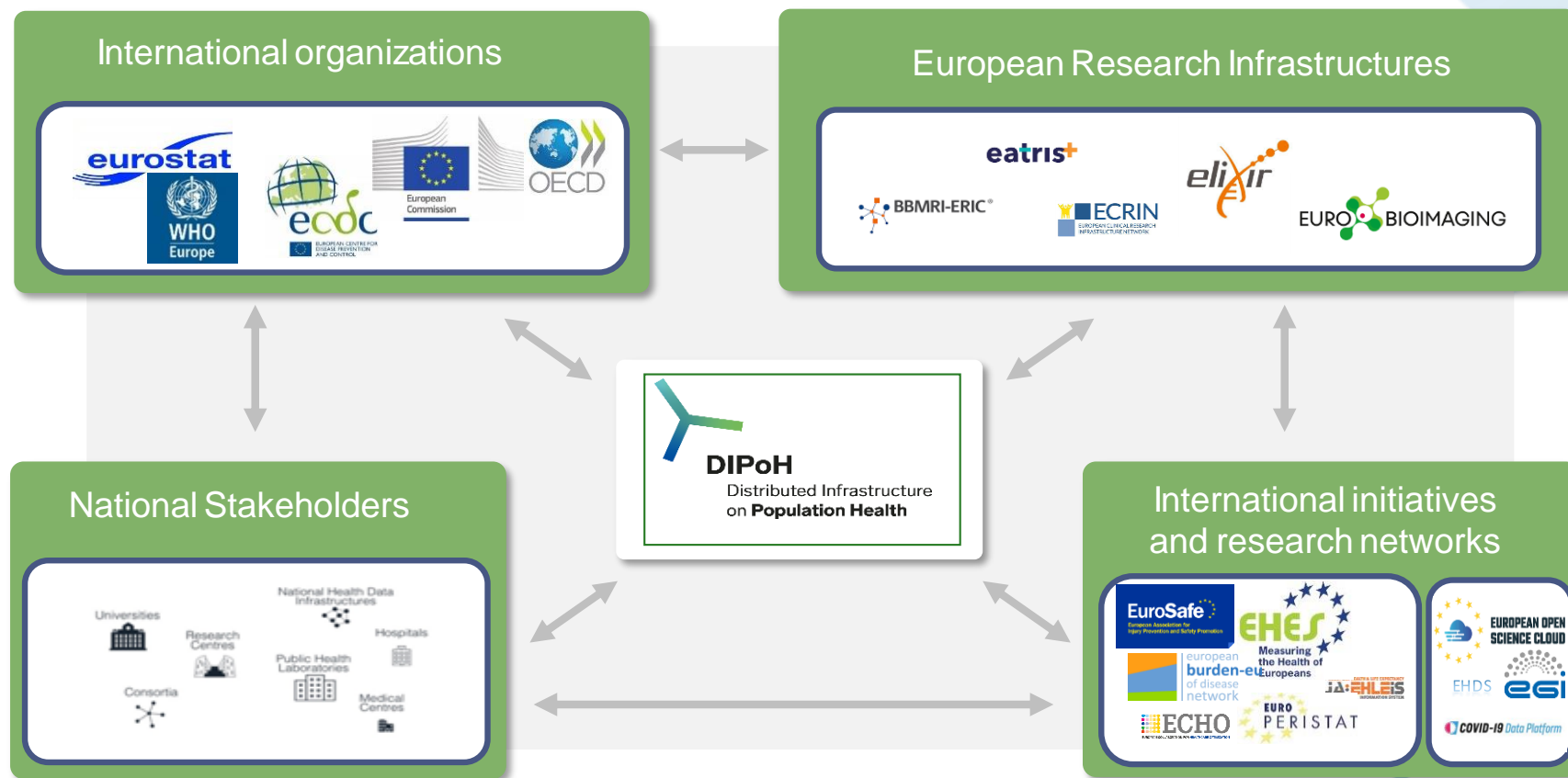
PHIRI: practical use case of DIPoH

The Population Health Information Research Infrastructure (PHIRI) for COVID-19

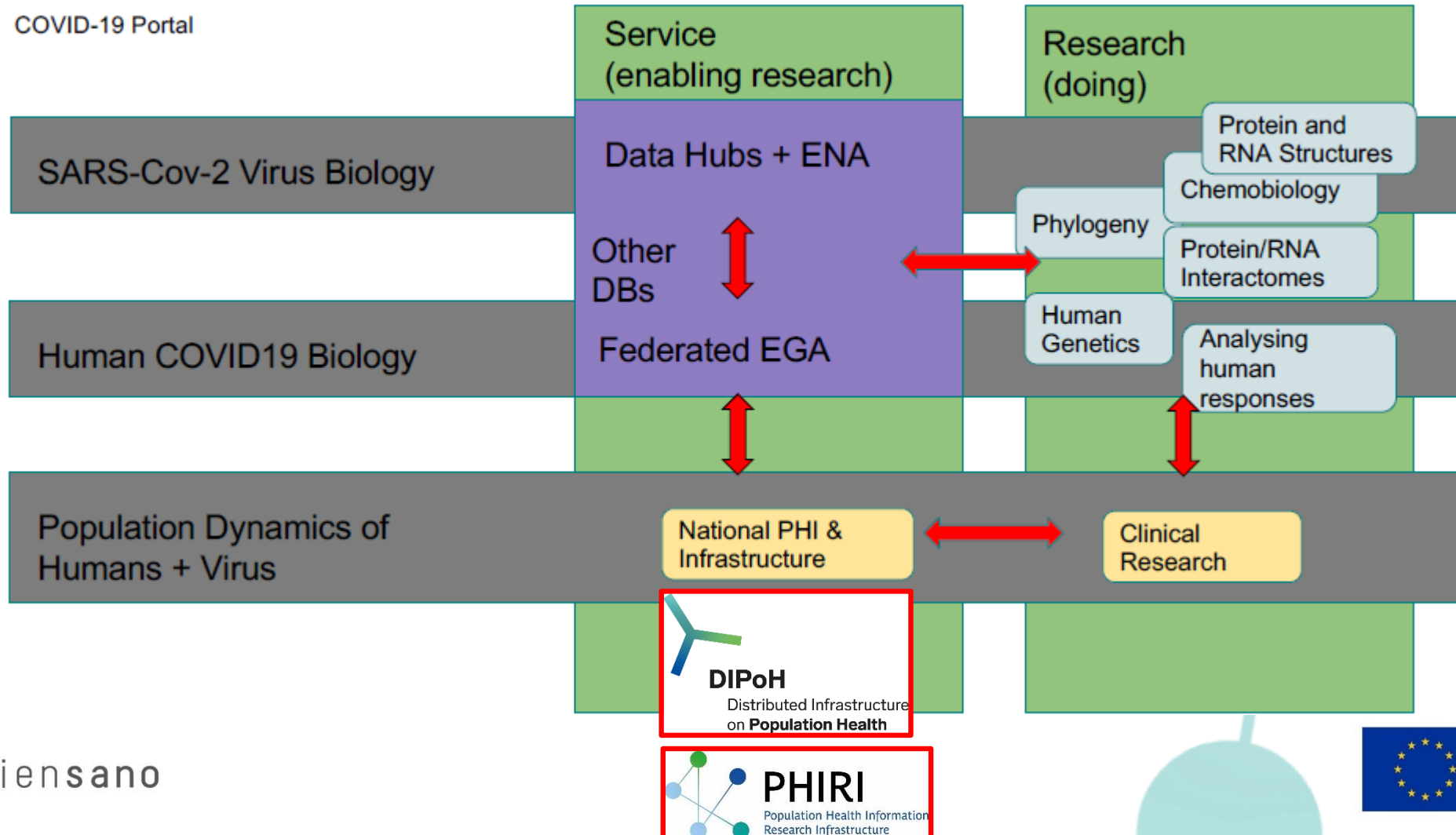
- ➔ Building transversal RI design as a base for DIPoH
- ➔ Strengthening Nodes and Research Networks as elements of RI
- ➔ Continuing work on the Health Information Portal



European and global interactions



Example: COVID 19 Portal



Interactions

- InfAct



- HealthyCloud: Health Research and Innovation Cloud



- EGI-ACE



- TEHDAS: European Health Data Space

European Health Data Space

	Legislative proposal 2021	Quality of data	Infrastructure	Capacity building and digital skills
Better Healthcare	Governance and rules, interoperability, infrastructure (primary and secondary use of health data)	Electronic Health Record Exchange Format	MyHealth@EU CPMS (ERNs)	Digitalisation of healthcare systems - RRF
Better Policy Making	Digital health services	FAIR-ification of health data	1+mil genomes European Health Data Space 2 infrastructure	Trainings of public administration Sharing best practices
Better Research and Innovation	Regulatory framework for AI and liability		Pilot project 2021 (EMA, ECDC)	Digital skills

https://ec.europa.eu/health/ehealth/dataspace_en

Data Governance Act-European Health Data Space

DGA

Minimum rules for access to data applicable to all sectors

A national single information point (refers request to data holder or representative of data holder/data permit authority/art 7DGA)

National body(s) with support function

Notification to national authority(s) for providers of data sharing services

Register of national data altruism organization(s)

European Data Innovation Board (cross-sector interoperability)

EHDS

Health specific

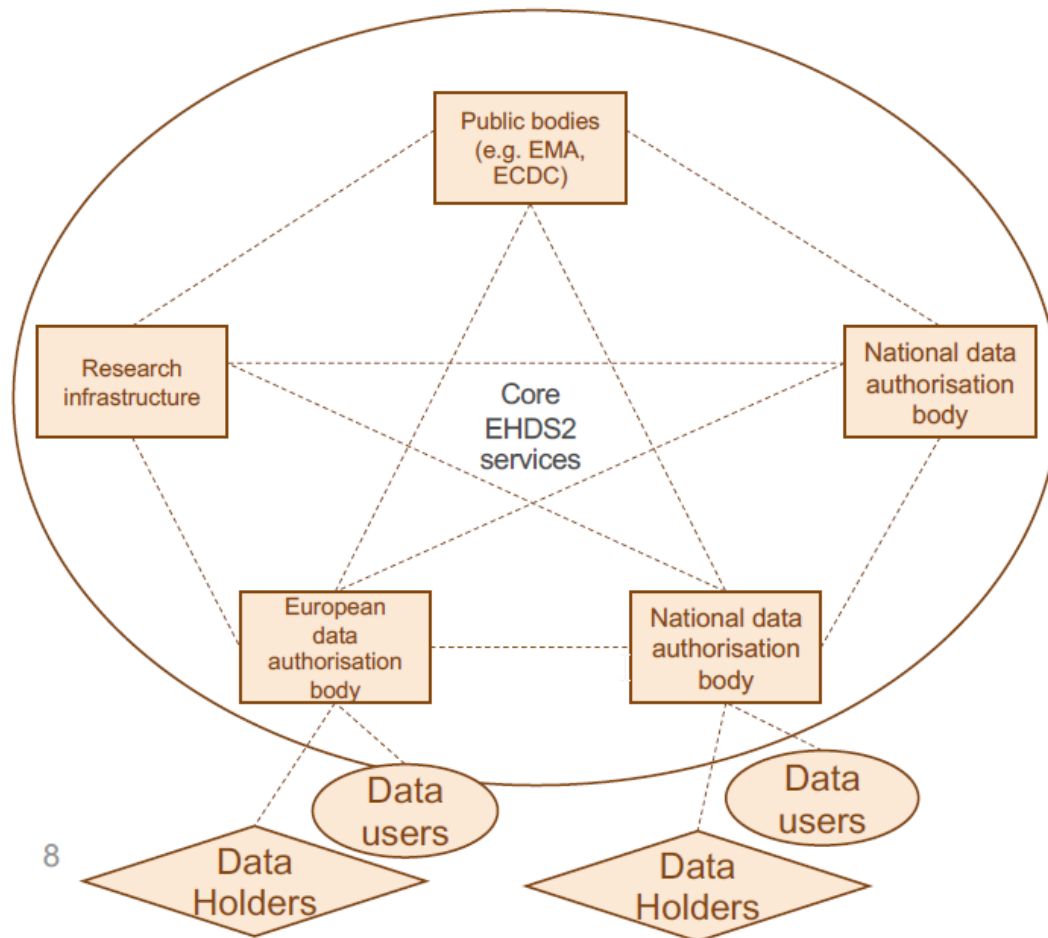
National data permit authorities/support function (art 7 bodies under DGA, with specific health criteria and conditions for access)

National sectoral bodies for interoperability (labeling/notification data holders, notification data sharing intermediaries)

National sectoral bodies on data altruism/data permit authorities (could manage the scheme or lay down additional requirements for health)

EU level body(ies) replacing eHealth Network - governing primary and secondary use of health data and represented in EDIB

EHDS2: access to data for research and policy making (secondary use of health data)



EHDS2 NODEs are the entry point for stakeholders into the EHDS

EHDS2 NODEs can be established by National or Trans-national stakeholders

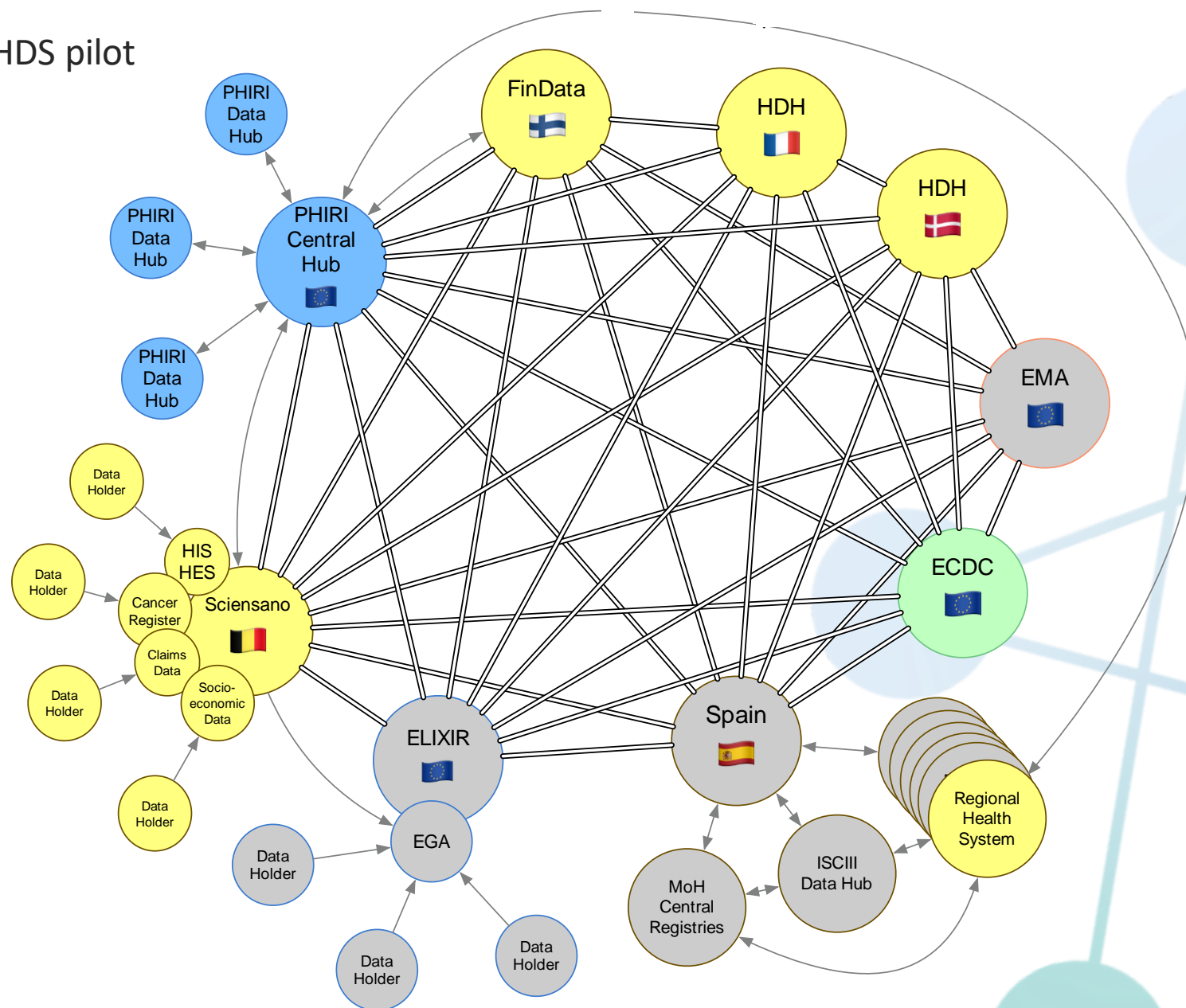
EHDS2 NODEs follow common policies and interoperability specifications

DATA Holders make health data available for research and policy making

DATA Consumers use data for research or policy making

PHIRI Use case

Instantiation within EHDS pilot



Calls: Horizon Europe - Work Programme 2021-2022

Research Infrastructures

1. FAIR and open data sharing in support to European preparedness for infectious diseases

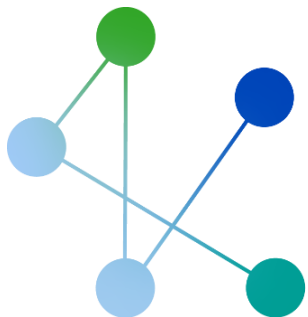
- a) Researchers working on COVID-19 and other infectious diseases can store, share, access, analyse, process and cite research data and other research digital objects across disciplines and national borders and collaborate with global partners.
- b) Federation of viral and human infectious disease data from national centres enables pan-European and global sharing and combination of research and clinical data.
- c) Development of digital tools for outbreak preparedness, identifying new variants of concern and tracking of genomic variations of SARS-CoV-2.
- d) Linking of FAIR data and metadata on SARS-CoV-2 and COVID-19 across research fields.
- e) Contributing to the Horizon Europe European Open Science Cloud (EOSC) Partnership

Calls: Horizon Europe - Work Programme 2021-2022

Research Infrastructures

2. Research Infrastructure services for rapid research responses to infectious disease epidemics


1. comprehensive catalogue of research infrastructures services relevant to tackle infectious diseases epidemics is available;
2. fast assembly and provision of innovative, customised and efficient research infrastructure services to support research linked to detecting, assessing and combatting newly emerging SARS-CoV-2 variants;
3. challenge driven integration of research infrastructures to better tackle infectious diseases and face epidemics, including for use by epidemics risk assessment and risk management bodies;
4. rapid response to epidemics outbreaks;
5. development of novel/adapted epidemics intervention tools and measures enabled by relevant Research Infrastructure (RI) services;
6. availability of research data emerging from access provision activities for re-use on common data platforms and registries, according to FAIR principles and compliant to legal provisions under the General Data Protection Regulation (GDPR).



PHIRI

Population Health Information
Research Infrastructure

Thank you!

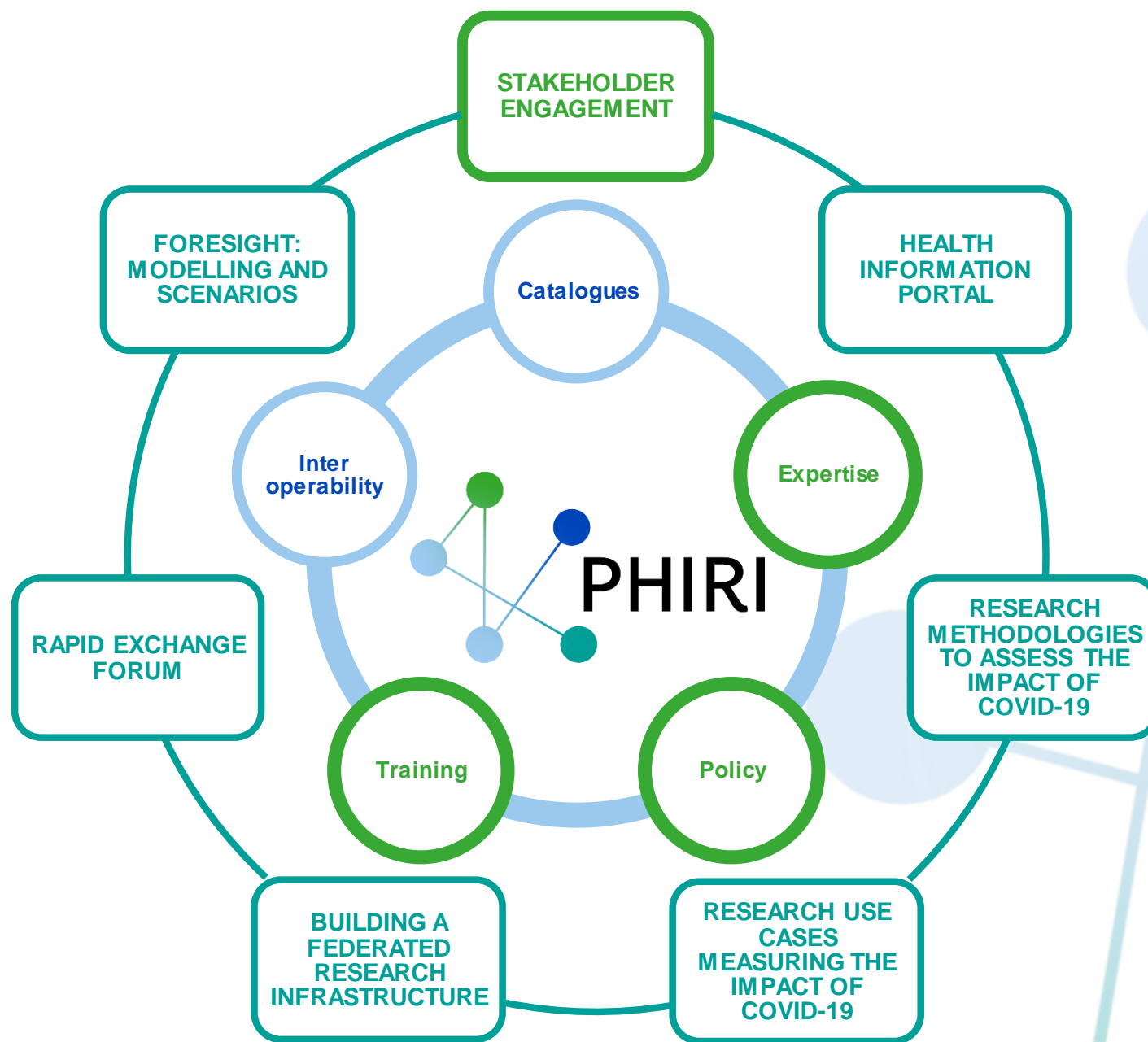
Name: Petronille Bogaert, Miriam Saso, Nienke Schutte,
Linda Abboud, Barthélémy Moreau and Herman Van Oyen
E-mail: PHIRI.coordination@sciensano.be
Follow us on Twitter:  @PHIRI4EU



www.phiri.eu



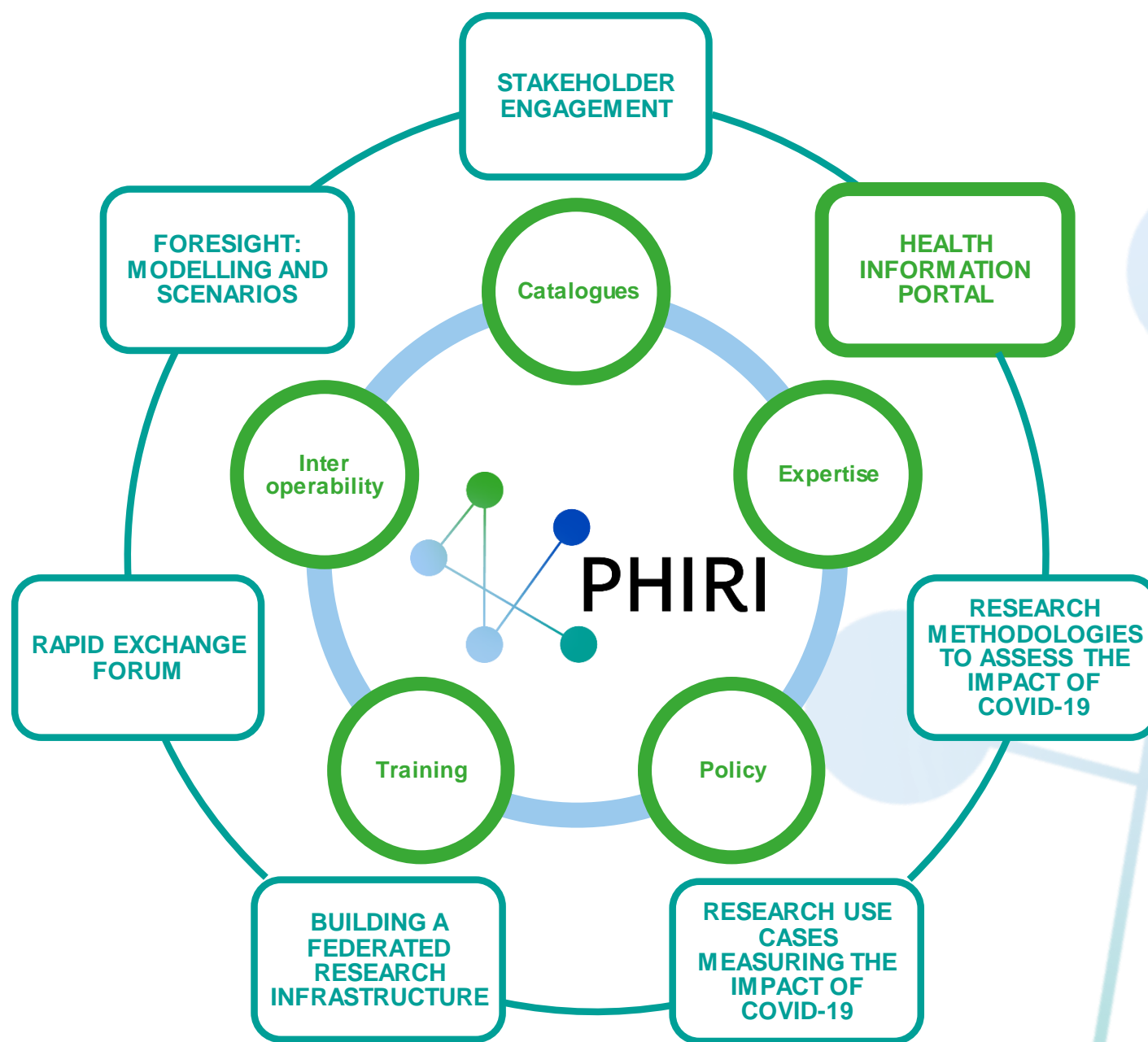
This project has received
funding from the European
Union's Horizon 2020
research and innovation
programme under grant
agreement No 101018317



Engage and involve

- Addressing the COVID-19 infodemic (training, FAQ section, key messages)
- Country visits to map state of play on monitoring the wider effects of COVID-19
- Stakeholder meetings: 3 main meetings and short ones every two months
 - Overview of relevant COVID-19 activities

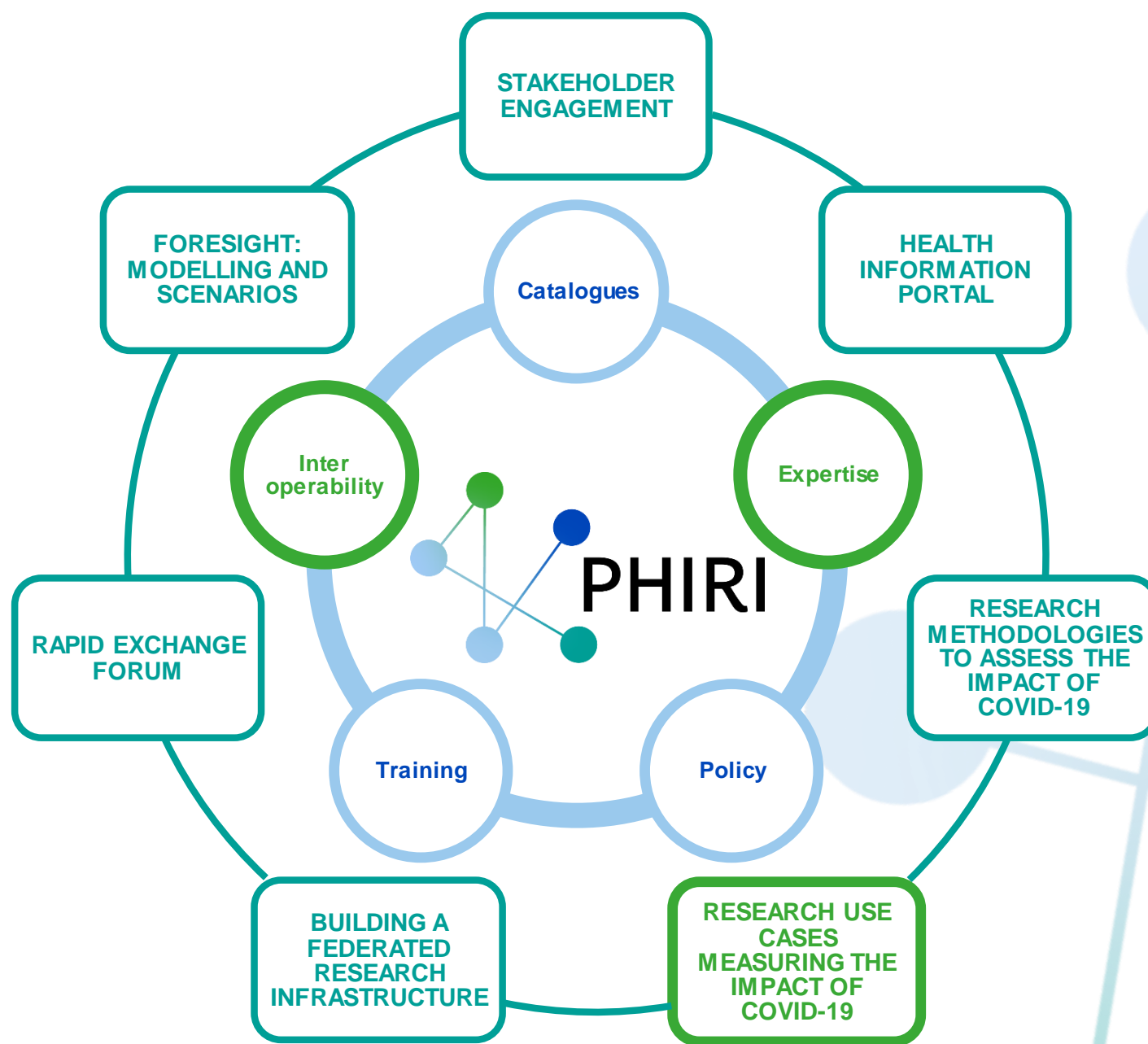
➔ Adapting InfAct's health information system assessments



Health Information Portal

- Health information portal
 - Catalogue of population health data sources in countries
 - Catalogue of COVID-19 population health studies
 - Catalogue of COVID-19 international guidelines, initiatives and projects
 - Catalogue of COVID-19 training material and courses
 - Practices on COVID-19 ethical and legal aspects
- Strengthening National Nodes setup in InfAct

➔ Extending work InfAct, base for DIPoH and transversal design

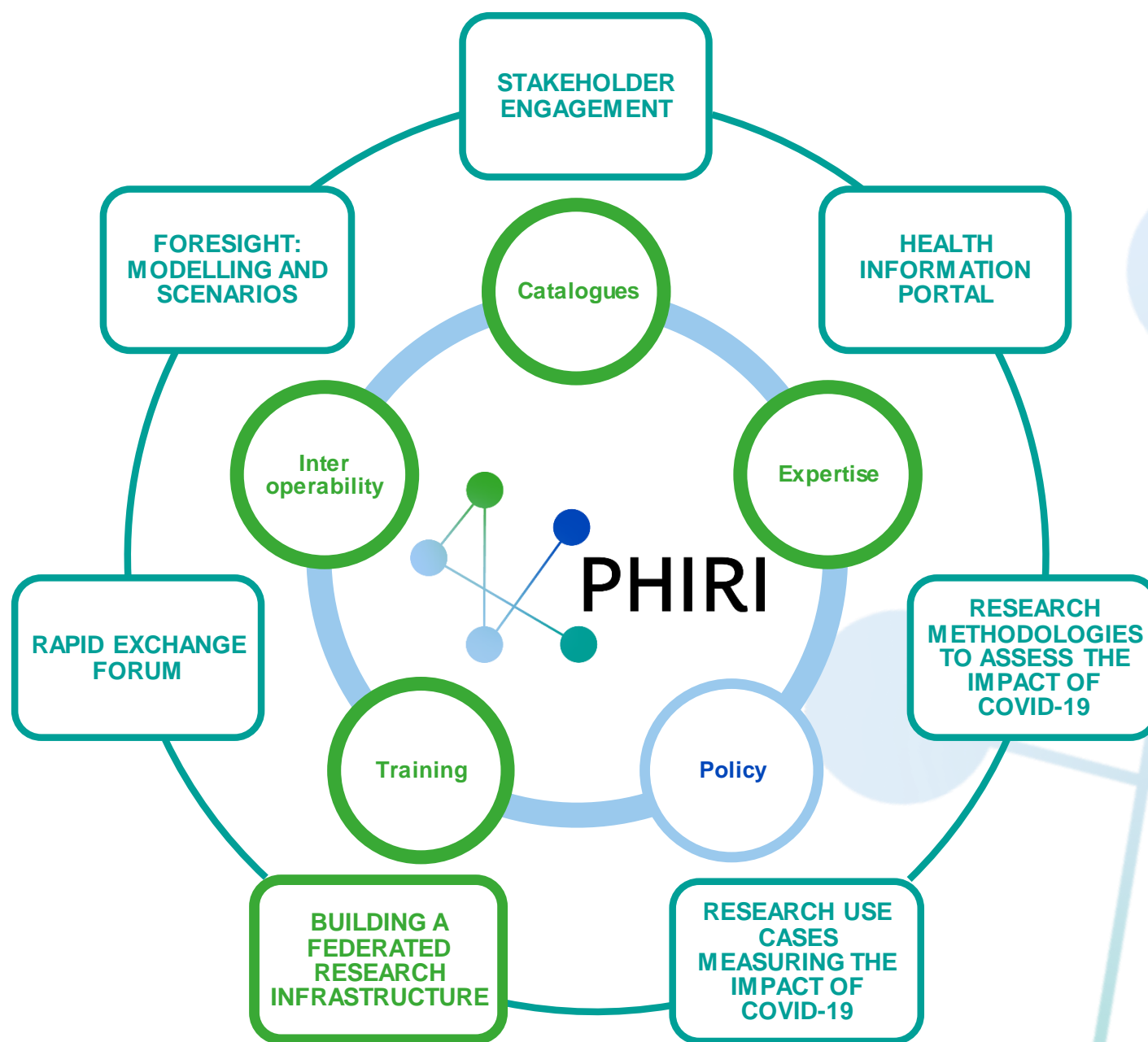


Four use cases

The use cases will demonstrate how a broad variety of secondary data (e.g. administrative and survey data) can be pooled and/or reused in a distributed way across Europe to produce actionable insights.

1. Direct and indirect determinants of COVID-19 infection and outcomes in vulnerable population groups with reference to inequalities
2. COVID-19 related delayed care in breast cancer patients
3. the impact of COVID-19 on perinatal health and perinatal health inequalities
4. COVID-19 related changes in population mental health

➔ Making use of InfAct's network and Research Networks





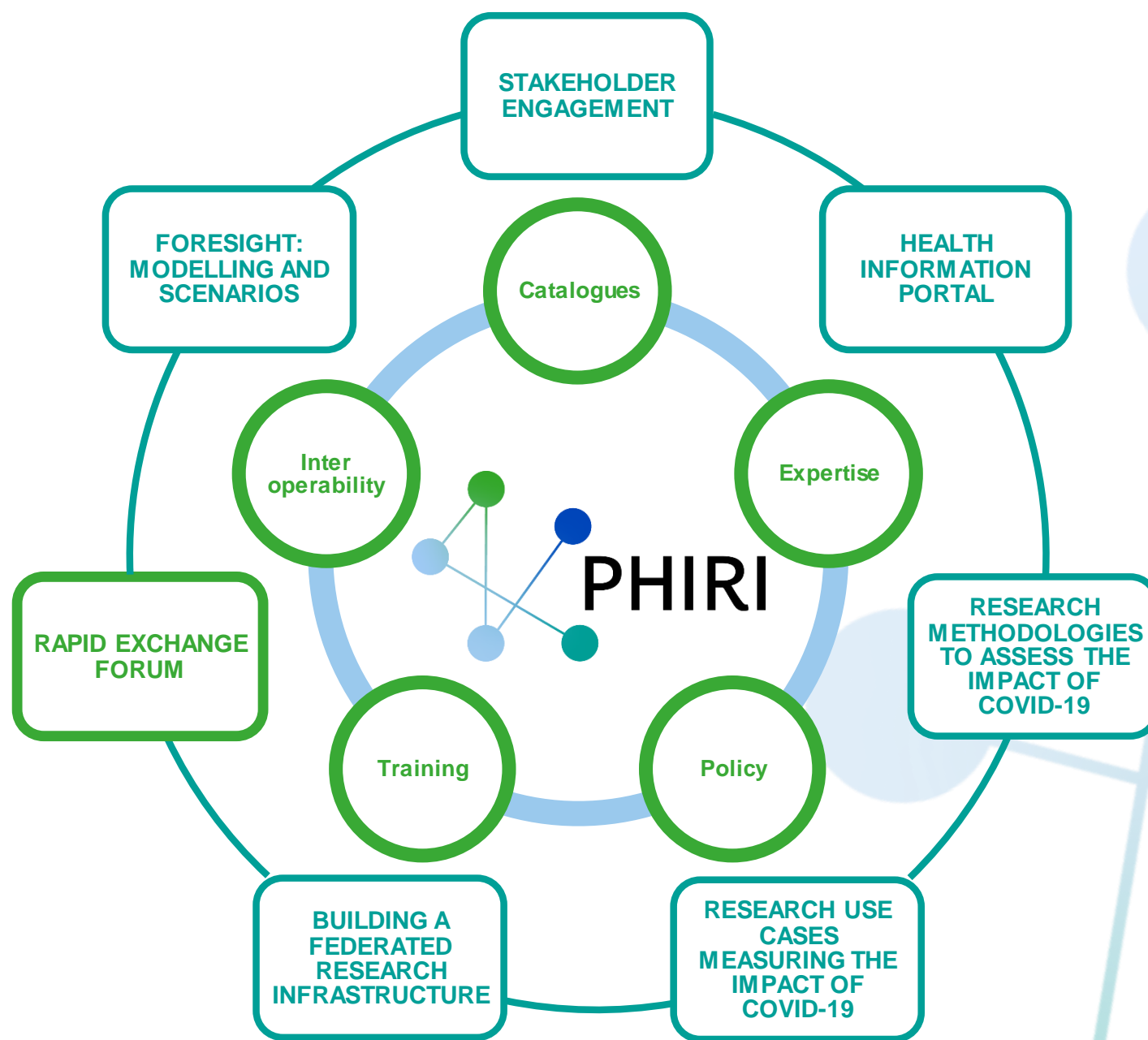
Federated research infrastructure

Showing the potential of the infrastructure for a rapid cycle analysis using a demonstration pilot case

Pilot, developing an advanced version of the federated research infrastructure, including:

- a) The development of a common data model for a COVID-19 rapid response
- b) The design and deployment of the required data extraction, transformation and loading (ETL) processes and
- c) The implementation of the distributed analytical solutions, in particular the FAIR implementation of intermediate processes and final research outputs. This advanced version will mainly build on WP6 use cases

➔ Building on demonstrated feasibility in InfAct

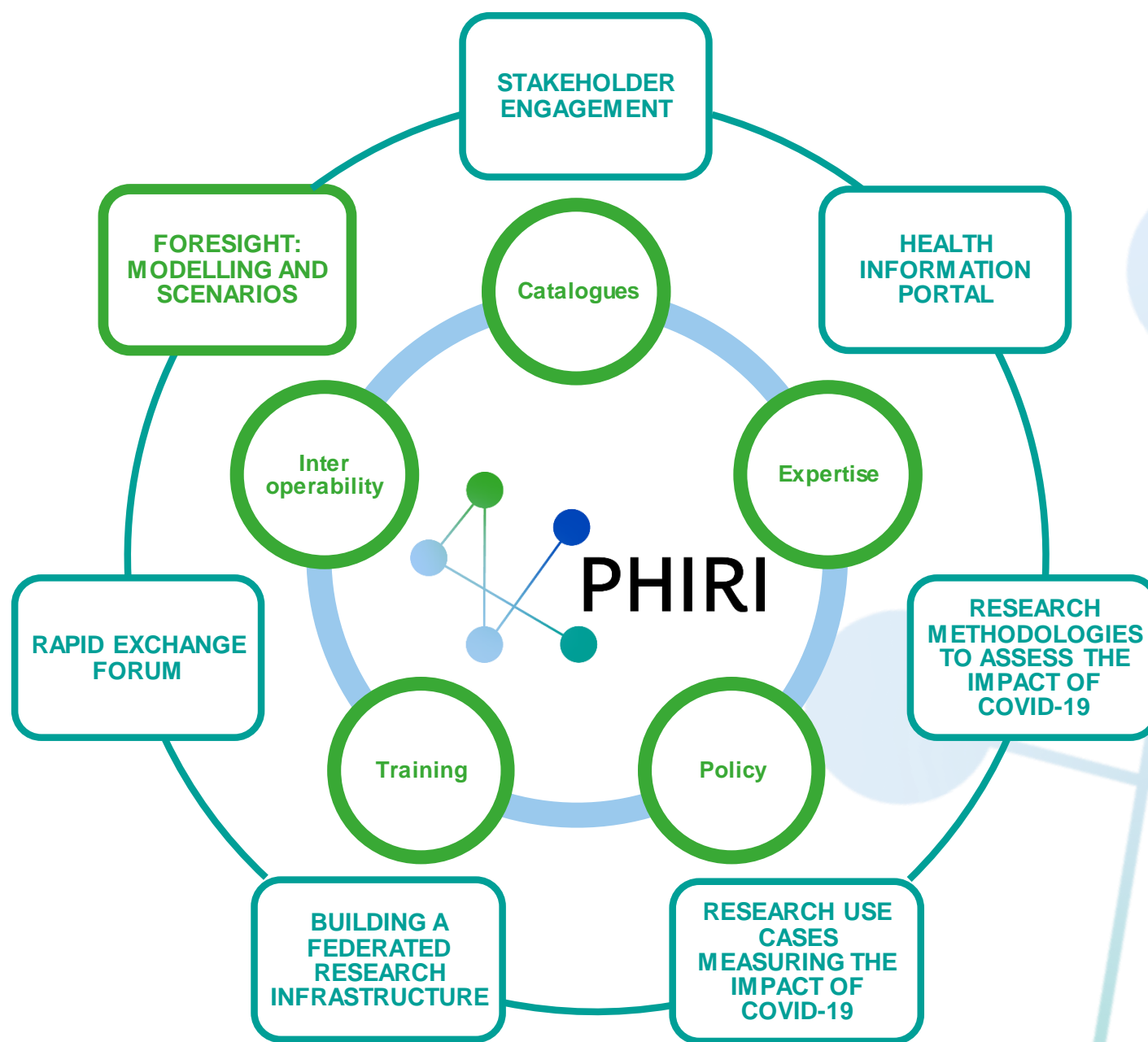




Rapid exchange forum

1. To provide rapid response to research and policy questions that are raised in countries
2. To promptly disseminate internationally agreed guidelines, standards, reports and initiatives
3. To exchange (best) practices among countries regarding COVID-19
4. To provide a link with policy: the shifting landscape of evidence for policy

➔ Kick started in InfAct



Foresight: Modelling and Scenario

The overall aim of this work package is to gain insights in possible future health impacts of the coronavirus outbreak, by developing scenarios for MS and associated countries' national situation and draw lessons for the EU.

The objectives are:

1. To get an overview of how European countries have been using foresight, modelling and preparedness regarding COVID-19 (mainly indirect effects)
2. To develop and provide foresight capacity (levelling the knowledge needed for performing foresight, reducing information inequalities, strengthening European data uniformity)
3. To support evidence-informed policy decisions, by exploring direct and indirect effects of COVID-19 on population health, on short and long-term, using scenarios and a broad conceptual model of health and care

